

- (19) Japanese Patent Office (JP)
- (12) Patent Laid-Open Publication (A)
- (11) Patent Laid-Open Patent Publication No. Showa 57-190922
- (43) Date of Laid-Open: November 24, 1982
- (21) Application No.: Showa 56(1981)-74909
- (22) Filed: May 20, 1981

J0973 U.S. PTO
09/882352



PURPOSE: To obtain a polarization eliminating circuit that eliminates the polarization of incident light, by making the linear polarized light incident vertically to a uniaxial crystal which is set so that the axis (z) is included in the surface vertical to the optical axis and then separating the normal beam from the abnormal beam with the equal optical power.

CONSTITUTION: A beam is made incident so that the vibrating direction of linear polarized light is set to X-X', i.e., in the direction where a 45 deg. inclination is caused to the axes (y) and (z) of a uniaxial crystal block. In this case, the optical electric power is equal between the normal beams shown by solid lines and the abnormal beams shown by dotted lines, and both the normal and abnormal beams are transmitted in the same direction and at different speeds. When the difference of the optical path between both beams is larger than the interferable length, the beams behave independently of each other. Thus the synthesization of electric fields is not obtained, and the electric power synthesization is possible. The non-polarized light is equivalently obtained although both beams produce the orthogonal component and are turned into the oval polarized light while they are propagating in a single mode fiber or the polarized face is turned. The reason is the both beams receive the same degree of the effect of the above-mentioned phenomena.